

Healing of pathological fracture in a case of multiple myeloma

Raju Vaishya, Vipul Vijay, Amit Kumar Agarwal

Department of Orthopaedic and Joint Replacement Surgery, Indraprastha Apollo Hospitals, New Delhi, Delhi, India

Correspondence to Professor Raju Vaishya, raju.vaishya@gmail.com

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DESCRIPTION

A man aged 41 years presented to us with a lytic lesion in the proximal humerus and developed a pathological fracture which was managed with nailing ([figure 1](#)). He was eventually diagnosed with multiple myeloma.¹ This patient underwent autologous bone marrow transplant. He was also given chemotherapy using a regimen of bortezomib, lenalidomide and dexamethasone. The humeral fracture showed sound union at the follow-up of 1.5 years with the lesion completely healed ([figure 2](#)).

The humerus is a common site for metastatic bone disease and the common primaries include breast, lung, multiple myeloma, etc. Multiple myeloma has shown improved long-term survival rates due to recent advances in treatment options. The improvement in survival rates has also been attributed to introduction of novel therapies early in the treatment course. Gainor and Buchert² reported a union rate of 67% of fractures in pathological fractures associated with multiple myeloma.

Recently, International Myeloma Working Group had identified various factors which can help in risk stratification. They suggested that age at presentation and the response to treatment are the most important factors affecting a successful outcome.³

In the present patient also, the young age at presentation, a good response to chemotherapy and bone marrow transplant, along with a rigid fixation of the fracture helped to achieve a good functional outcome. Locked intramedullary nailing can provide stable fixation of the pathological fractures of humerus. The fixation should be followed up with recommended radiotherapy and chemotherapy protocols.

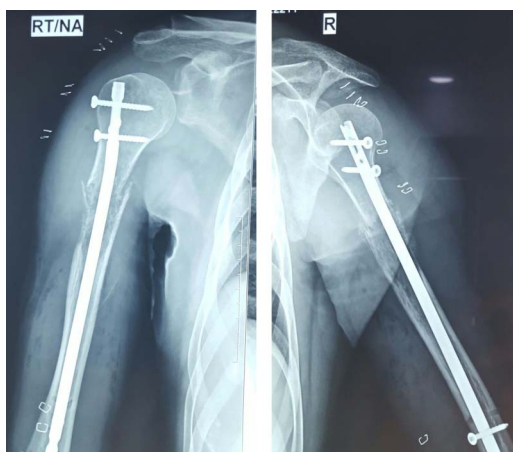


Figure 1 The immediate postoperative radiograph of the fracture showing the internal fixation of the pathological fracture with a locked intramedullary nail.

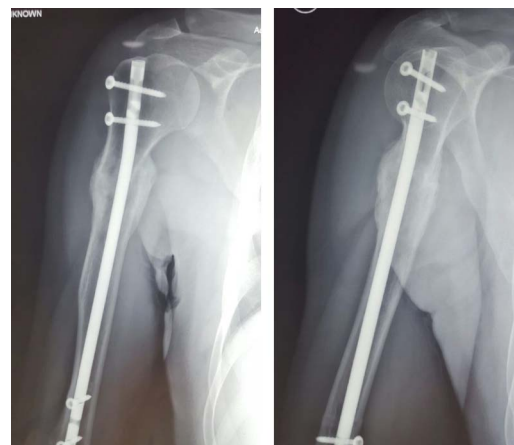


Figure 2 One-and-a-half-year follow-up radiograph of the same patient showing sound union with complete resolution of the pathological lesion.

Learning points

- ▶ Pathological fractures of long bones can be satisfactorily treated with internal fixation with adequate adjuvant therapy.
- ▶ The fracture union depends on multiple factors, including the nature of the primary malignancy, survival duration, etc.
- ▶ Pathological fracture of the humerus should be treated by using interlocking nails, even though the origin of the cancer such as myeloma or lung cancer is an unfavourable disease.
- ▶ Pathological fractures associated with multiple myeloma have a favourable union rate among all the common metastasis.

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Competing interests None declared.

Patient consent Obtained.

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